

Some variational problems ...

S/147/62/000/001/002/015
E195/E435

where α_1 and β_1 - constant coefficients; v and a - velocity and velocity of sound of the free stream; r' - tangent of the angle of the tangent to a point on the surface of the body, the authors derive in a parametric form the equations of the body profile

$$r = \frac{c}{p^6 + 4p^3}, \quad (1.8)$$

$$\xi = c \left\{ \frac{3}{5\beta p^6} + \frac{p}{\delta'(p^3 + \delta)} + \right. \\ \left. + \frac{1}{\sigma^3} \left[\frac{1}{3} \ln \frac{(p + \sqrt[3]{\sigma})^3}{p^3 + \sigma} + \frac{2}{\sqrt[3]{3}} \operatorname{arctg} \frac{p \sqrt[3]{3}}{2\sqrt[3]{\sigma} - p} \right] \right\} + c_1, \quad (1.9)$$

where $p^2 = r'$. For a given law of motion $v = f(t)$, the parameter σ is known and the arbitrary constants c and c_1 are determined by the boundary conditions $r(0) = r_0$, $r(1) = r_1$. In transition from one regime to another the body profile will change because of variation in σ . With velocity constant
Card 3/6

Some variational problems ...

S/147/62/000/001/002/015
E195/E435

where $u_i(t)$ - control functions connected with the motion of the missile (speed, mass etc); $r_j(\xi)$ - functions which are independent of time which characterize the constructional data of the missile; $(\xi [0,1])$ - connected with construction of the coordinate). This article is devoted to the consideration of the influence of motion regime on the optimum shape of a missile and some generalization of the problems formulated in the previous work. Starting from the Euler-Lagrange equations for several variables and defining a pressure coefficient for the head of solid of revolution

$$c_p = \alpha_1 r'^2 \left[1 + \beta_1 \left(\frac{a}{vr'} \right)^{3/2} \right] \quad (1.1)$$

and

$$Q = \alpha_1 \pi \rho v^2 \int_0^1 \left[1 + \beta_1 \left(\frac{a}{vr'} \right)^{3/2} \right] r r'^3 d\xi \quad (1.2)$$

Card 2/6

10.1200
10.1210

S/147/62/000/001/002/015
E195/E435

AUTHORS: Kostychev, G.I., Polkovnikov, V.I.

TITLE: Some variational problems in gas dynamics for motions other than steady-state

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy.
Aviatsionnaya tekhnika. no.1, 1962, 11-18

TEXT: Many papers exist which deal with the determination of optimum values of missile design parameters, but which are applicable only to steady-state conditions. The solutions thus obtained do not apply to non-steady states which characterize the conditions during actual flight. In a previous paper (Ref.1: Ibid, no.4, 1961) the author dealt with such problems, where aerodynamic characteristics were in the form

$$Q = \int_0^1 \varphi[u_i(t), r_j(\xi)] d\xi \quad \begin{pmatrix} i=1, \dots, n \\ j=1, \dots, m \end{pmatrix}. \quad (0.1)$$

and the equation of motion

$$\int_0^1 f_k(u_i, r_j) d\xi = 0, \quad (0.2)$$

Card 1/5

85919

3/124/60/000/009/001/005
A005/A001

The Formation of the Wing Profile According to the Distribution Diagram of Velocity or Pressure Over the Chord

the right-hand part of Eq. (3) in the vicinity of $\lambda = 0$ by a series in powers of λ , the system of differential equations can be obtained for determining the unknown functions $z_n(\xi)$ by comparing the coefficients at λ of equal powers. The conditions are considered for which the solution can be found in the class of functions univalent in the vicinity of the infinitely remote point; the convergence of the successive approximation process is shown, and the considerations are presented which simplify the application of the formulae obtained. It is shown that the second approximation gave already practically suitable results for one of the theoretical profiles, which is similar to the NACA-230-11 profile. There are 5 references. ✓

A.I. Borisenko

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

85919

3/124/60/000/009/001/005
A005/A001

The Formation of the Wing Profile According to the Distribution Diagram of Velocity or Pressure Over the Chord

Therefore, if the value of velocity on the profile contour is prescribed in the form $v^2 = F(x)$, the problem of the determination of the stream and its boundaries is reduced to the determination of the function $z(\xi)$ regular everywhere within the region $|\xi| \geq 1$, having a simple pole in the infinity, and satisfying on the boundary $|\xi| = 1$ the condition

$$z' \bar{z}' F \left(\frac{z + \bar{z}}{2} \right) = w' \bar{w}', \quad (\xi = e^{i\theta}). \quad (2)$$

The solution of the more general problem of determining $z(\xi)$, satisfying the same conditions but having boundary condition in the form

$$z' \bar{z}' \left[f_0 \left(\frac{z + \bar{z}}{2} \right) + \lambda f \left(\frac{z + \bar{z}}{2} \right) \right] = \psi(\theta, \lambda) \quad (3)$$

where $0 \leq \lambda \leq \lambda_0$ is presented in the first three paragraphs of the article. It is assumed that the solution of Eq. (3) is known for $\lambda = 0$ in the form $z = z_0(\xi)$, and that the solution of Eq. (3) for $\lambda = \lambda_0$ goes over into the solution of Eq. (2). Assuming that $z(\xi, \lambda) = z_0(\xi) + \lambda z_1(\xi) + \lambda^2 z_2(\xi) + \dots$, and presenting

Card 2/3

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10.9000

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A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 4, pp. 41-42, # 11418

AUTHOR: Kestychev, G.I.

TITLE: The Formation of the Wing Profile According to the Distribution Diagram of Velocity or Pressure Over the Chord

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol. 38, pp. 3-21

TEXT: If $W(\xi)$ is the complex potential in the ξ -plane, and

$$(\xi) = a\xi + \sum_{n=0}^{\infty} a_n \xi^{-n} \quad (1)$$

is a function conformally mapping the exterior of the unit circle of the ξ -plane onto the exterior of the profile in the ξ -plane, and

$$\bar{v} = \frac{dW}{d\xi} \frac{d\xi}{dz}, \quad \text{then} \quad \frac{dz}{d\xi} \frac{dz}{d\xi} v^2 = \frac{dW}{d\xi} \frac{d\bar{W}}{d\xi}$$

where \bar{v} is the conjugate velocity.

Card 1/3

10(4), 16(1)

67060

SOV/44-59-9-9007

On the Construction of Grids According to a Given Velocity Distribution
 [Part of the Dissertation Maintained in 1952]

exterior of concentric unit circles on the m -sheeted surface of the plane
 ζ by the function

$$W = \frac{Q-i\Gamma}{2\pi m} \ln \frac{R+\zeta}{R-\zeta} + \frac{Q+i\Gamma}{2\pi m} \ln \frac{R\zeta+1}{R\zeta-1} - \frac{\Gamma^2}{2\pi i} \frac{\zeta-R}{R\zeta-1} + c.$$

In this case the function $\ln \frac{dW}{dz}$ has logarithmic singularities in the points
 $\zeta = \pm R$ and for the determination of it one is compelled to use a formula
 being a generalization of the formula of Iensen and the integral of
 Schwarz.

V. S. Bogozhin

Card 3/3

67060

SOV/44-59-9-9007

10(4), 16(1)

On the Construction of Grids According to a Given Velocity Distribution
 [Part of the Dissertation Maintained in 1952]

a Riemannian surface of infinitely many sheets in the ζ -plane; the mapping function is

$$W = \frac{t_1}{2\pi} \left[e^{-i\alpha_1} \ln \frac{R+\zeta}{R-\zeta} + e^{i\alpha_1} \ln \frac{R\zeta+1}{R\zeta-1} \right],$$

where t_1 is the path, α_1 - the decision of the grid in the W -plane and the parameter R is determined from a certain transcendent equation. In this manner $\ln \frac{dW}{dz}$ is determined as a function of ζ by an integral of Schwarz.

In the papers of other authors on this question the analytic function $\ln \frac{dW}{dz}$ was determined immediately in the infinitely connected domain of the W -plane; that caused large computing difficulties, since elliptic functions were applied.

In an analogous manner the grid is found which consists of m congruent profiles lying symmetrically around the coordinate origin; here the velocity distribution is given and in the coordinate origin there lies a system consisting of the vortex Γ and the source Q . In this case the domain which corresponds to the flow in the plane W is mapped onto the

Card 2/3 ✓

10.2000
~~10(4), 16(1)~~

67060
 SOV/44-59-9-9007

Translation from: Referativnyy zhurnal. Matematika, 1959, Nr 9, p 69 (USSR)

AUTHOR: Kostychev, G.I.

TITLE: On the Construction of Grids According to a Given Velocity Distribution
 [Part of the Dissertation Maintained in 1952]

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, 33-34, 7-18

ABSTRACT: Let a grid with straight axes consist of infinitely many congruent profiles and let it be in the potential flow of an incompressible fluid. The author considers the determination of such a grid from the velocity of flow given as a function of the profile arc on the profile. The conditions of the problem permit to determine the absolute value of the derivative of the complex potential W as a function of the boundary point of an infinitely connected domain of the W -plane which corresponds to the external region of the sought grid. The mentioned domain of the W -plane is also a grid consisting of rectilinear lines; the parameters of this grid are determined from the conditions of the problem. In this manner the real part $\ln \frac{dW}{dz}$ on the boundary of the infinitely connected domain is known. For the determination of $\ln \frac{dW}{dz}$ the author maps the exterior of the grid in the W -plane onto the exterior of concentric unit circles lying on

Card 1/3

SOV/124-59-9-9884

Translation from: Referativnyy zhurnal, Mekhanika, 1959, Nr 9, p 45 (USSR)

AUTHOR: Kostychev, G.I.


TITLE: The Potential Flow Around Two Bodies by a Plane Stream of an Incompressible Liquid 21

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol 33 - 34, pp 3 - 6

ABSTRACT: To solve the problem the author recommends to map at first the exterior of one of the bodies onto a semiplane, and then to analyze the flow around the profile, which is near the plane boundary. The author does not present examples of calculations in his article.

G.Yu. Stepanov

Card 1/1



SOV/147-58-3-1/18

On the Solution of a Variational Problem in Supersonic Flows
variational relation as indicated by the last two
equations. There are 2 figures and 2 Soviet references.
ASSOCIATION: Kazanskiy Aviatsionnyy Institut, Kafedra Aerodinamiki
(Kazan' Institute of Aeronautics, Chair of Aerodynamics)
SUBMITTED: 19th February 1958.

Card 5/5

SOV/147-58-3-1/18

On the Solution of a Variational Problem in Supersonic Flows

λ and μ are respectively the constant and the variable multipliers of Lagrange. The lower indices denote partial derivatives with respect to the pertinent variables. With the use of the first three of these relations the fourth one can be transformed to read as in Eq.15. These four equations together with Eq.11 will enable us to determine the five functions α , β , γ , φ and μ . Equ.15 is of the second order with respect to φ , hence the general solution of the system will contain four arbitrary constants which can be determined by the given magnitudes γ_a , γ_b , X_0 with the help of Eq.13 and by the two boundary conditions at the free end ($\psi = \psi_c$) which can be obtained from the general form of the first

Card 4/5

SOV/147-58-3-1/18

On the Solution of a Variational Problem in Supersonic flows

properties of the incident stream and of the angle of the tangent to the shock wave in the physical plane (X, r) , this angle given by Eq.7. Taking into account the standard relations through the shock wave as expressed by the next three equations and the relation 7, we can now obtain expressions as given in Eq.8 and 9 and these finally lead to Eq.10. Along characteristics of the second family there are two non-holonomic relations: Equations 11 and 12. Thus we arrive at the following variational problem: with the given parameters of the incident stream (Eq.1) and the given magnitudes r_a, r_b and X_0 we have to determine the functions $\alpha(\psi)$, $\beta(\psi)$, $r(\psi)$ and $\phi(\psi)$ giving the minimum wave drag (Eq.4) with the constant length X_0 (Eq.10) and non-holonomic relations of Eq.11 and 12. For the cases when the shock is attached and there are no shocks or rarefaction waves inside the triangle abc and on the assumption that the speeds along the characteristic remain supersonic throughout then, in accordance with the methods described by the author (Ref.1) and Shmyglevs'kiy (Ref.2), four relations are obtained as given by Eq.14, in which

Card 3/5

SOV/147-58-3-1/18

On the Solution of A Variational Problem in Supersonic Flows

function. Let $\phi(\psi)$ be the unknown function giving the main shock wave originating at a, then, because of the shock, the flow in the triangle acd changes. With the notation of Ref.1, the wave drag of the segment ab is given by Eq.3, where L is the contour based on the segment ab. Assume now as the contour L the curve acb (Fig.2) consisting of the shock ac and the characteristic (of the second family) bc originating at b. Eq.3, is valid also in the case when the functions of the gas dynamics have discontinuities in the region of integration, hence Eq.3 can be integrated along ac by taking the left limits of the functions involved. The integral along ac being

$$\int_0^{\psi_c} [X_1(\phi, \psi) + \phi'(\psi) X_2(\phi, \psi)] d\psi$$

and that along bc being (as shown in Ref.1 and 2)

$$\int_0^{\psi_c} v(\alpha) [1/X \sin \alpha \sin (\beta - \alpha) - \cos \beta] d\psi$$

The total wave drag of the segment ab is given by Eq.4 and the length of the sought body of revolution is given by Eq.6. The function $\phi(\psi)$ may be expressed in terms of

SOV/147-58-3-1/18

AUTHOR: Kostychev, G.I.

TITLE: On the Solution of a Variational Problem in Supersonic Flows (K Resheniyu odnoy variatsionnoy zadachi sverkhzvukovykh techeniy)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, 1958, Nr 3, pp 3-7 (USSR)

ABSTRACT: The author has already dealt (Ref.1) with the problem of the optimal shape of the nose of a body of revolution (or a wing) giving a minimum wave drag in a supersonic stream. There are, however, cases when axisymmetrical bodies are subjected to a disturbed flow, e.g. in a multi-stage rocket where the disturbance is caused by the main stage of the rocket. Suppose it is required to determine the shape of a body of revolution having diameters $2r_a$ and $2r_b$ over an axial length X_0 (Fig.1. plane r, X) resulting in the minimum wave drag in a supersonic stream as defined by the parameters of Eq.1, where $f_i(X, \psi)$ are given continuous function, s determined everywhere in the flow upstream starting with the characteristic (of the first family) ad originating at a (Fig.2), in the plane (X, ψ) in which ψ is the stream

Card 1/5

KOSTYCHEV, G.I.

Shape of bodies having minimum wave resistance. Izv. vys. ucheb.
zav.; av. tekhn. no.2:9-15 '58. (MIRA 11:6)

1. Kazanskiy aviatsionnyy institut, Kafedra aerodinamiki.
(Airfoils)

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 8, p 25 (USSR) SOV/124-57-8-8761

AUTHOR: Kostychev, G. I.

TITLE: Contribution to the Problem of the Flow About an Airfoil (K zadache ob obtekanii krylovogo profilya)

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1956, Vol 31, pp 37-49

ABSTRACT: The author gives a calculation method for the plane parallel flow of an ideal incompressible fluid about an airfoil of arbitrary form. The airfoil contour is represented in the form of a trigonometric series; all basic hydrodynamic quantities are expressed in terms of the coefficients of that series.

Ya. M. Serebriyskiy

Card 1/1

Kostychev G. I.

124 1957-10-11544

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 51 (USSR)

AUTHOR: Kostychev, G. I.

TITLE: To the Calculation of Hydrodynamic Cascades (K raschetu gidrodinamicheskikh reshetok)

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1956, Vol 31, pp 23-30

ABSTRACT: The Author determines expressions for the coefficients of a function which transforms conformally the exterior surface of a cascade composed of arbitrarily shaped profiles upon the peripheries of concentric circles lying on an infinite Riemann surface by means of the coefficients of the normal parametric representation of the profile. The relationships can be expressed with any desired degree of accuracy

I. S. Simonov

Card 1/1

KOSTYCHEV, G.I.

Calculating the flow past circular cascades of profiles. Trudy KAI
28:49-60 '54. (MIRA 10:6)
(Airfoils)

Contribution to the problem ...

S/147/61/000/004/005/021
E161/E435

motion, e.g. speed, coordinates, so that the velocity u_n at the end of the motion should assume a stationary value. A variational method is used, employing Lagrange multipliers. This leads to a complex equation in which the coefficients of most terms can be made zero, thus leading to just sufficient equations to determine the unknowns. A particular case - when some of the functions introduced assume special forms - leads to simplified conditions. Finally, equations are derived for the shape of the body when the work done during the motion is a minimum, and also when the speed of the body is constant. There is 1 figure. ✓

ASSOCIATION: Kazanskiy aviatsionnyy institut
Kafedra aerodinamiki (Kazan' Aviation Institute
Department of Aerodynamics)

SUBMITTED: March 11, 1961

Card 2/2

S/147/61/000/004/005/021
E161/E435

10.1200
AUTHOR: Kostychev, G.I.
TITLE: Contribution to the problem of the optimum shape of
bodies in unstabilized motion
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy.
Aviatsionnaya tekhnika, no.4, 1961, 34-38
TEXT: The author considers a body, taken as a particle,
moving in a trajectory defined by Cartesian coordinates (x,y).
The "P = mf" type equations of motion are written down in
tangential and normal form. Along the line of flight, P is the
difference between the thrust and the weight component plus the
frontal resistance to motion, the latter term being expressed as
the aggregate of all the elemental resistances summed over the body.
Normal to the line of flight, P is the difference between the
lift force, expressed as an integral taken over the body, and the
weight component. The cross-sectional shape of the body is
specified by two Cartesian coordinates (ξ , r). With this
introduction the problem now considered is the determination of the
shape of the body, $r = r(\xi)$, and the parameters defining the
Card 1/ 2

1. KONTYCHEV, A., ENT.
2. USSR (600)
4. Coal Mines and Mining - Periodicals
7. Serious omissions in the periodical "Ugol'." Zo ekon. nat. no. 5, 1950.
9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

KOSTYOMENKO, Ya.V.

New design of valve joints for depth pumps. Prom. no. 15
no. 3:20 M- '60. (MRA 13:4)
(Oil well pumps)

YEGOROVA, L.I.; KOSTYAYEVA, S.I.

Use of some diuretic substances (diamox, chlorurit, hypothiazide) in cardiovascular pathology. Terap. arkh. 35 no.2: 30-37'63. (MIRA 16:10)

1. Iz Tsentral'noy klinicheskoy bol'nitsy (glavnyy vrach A.I.Khrimlyan) IV Glavnogo upravleniya pri Ministerstve zdavookhraneniya SSSR.

(CARDIOVASCULAR SYSTEM---DISEASES)
(DIURETICS AND DIURESIS)

FOMICHEVA, A.S., nauchnyy sotrudnik; AKULOVA, M.F., veterinarnyy vrach;
APOLLOSOV, K.A., veterinarnyy vrach; KUSHINA, L.K., veterinarnyy
vrach; KOSTYAYEVA, A.A., vrach-bakteriolog (Rostov-na-Donu)

Role of antiphage serum in the diagnosis of brucellosis. Veteri-
nariia 32 no.12:67-68 D '55. (MLRA 9:4)
(BRUCELLOSIS--DIAGNOSIS) (SERUM DIAGNOSIS)

BURSEVICH, A.P., kapitan 2-go rango; KOSTYAYEV, V.V., kapitan-leytenant

From the practice of carrying out radio deviation work on
submarines. Mor. sbor. 47 no. 5:63-66 My '64. (MIRA 18:6)

KOSTYAYEV, V.M.

Using the leaf-diagnosis method to determine the supply of nitrogen, phosphorus, and calcium in the ramie plant. Dokl. AN Tadzh. SSR 3 no.5:45-47 '60. (MIRA 16:2)

1. Tadzhikskiy nauchno-issledovatel'skiy institut sadovodstva im. L.V. Michurina. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR V.F. Petrovym.
(Ramie) (Plants--Nutrition)

KOSTYAYEV, V. M., CAND AGR SCI, "EFFECTIVENESS OF MINERAL FERTILIZERS UNDER CROPS IN THE SIEROZEM OF TADZHIKISTAN." STALINABAD, 1960. (ACAD SCI TASSR, INST OF HORTICULTURE, IM I. V. MICHURIN). (KL, 2-61, 215).

KOSTYAYEV, V.M.

Nutritional requirements of ramie plants on dark Sierozems of the
Gissar Valley. Dokl.Ak Tadzh, SSR 2 no. 5:23-29 '59.
(MIRA 13:12)

1. Tadzhikskiy nauchno-issledovatel'skiy institut sadovodstva
imeni I.V. Michurina. Predstavleno akademikom AN Tadzhikskoy
SSR P.N. Ovchinnikovym.
(Gissar Valley--Ramie)

USSR/Soil Science - Cultivation, Improvement, Erosion.

J

Abs Jour : Ref Zhur Biol., No 22, 1958, 100108

Author : Lukin, V.N., Kostyayev, V.M.

List : -

Title : Tillage of Boggy Soils Without the Use of a Moldboard.

Orig Pub : Khochagin kishloki Tochikiston. 1957, No 9, 45-47
(tadzh.); S. kh. Tadzhikistana, 1957, No 9, 46-48

Abstract : No abstract.

Card 1/1

ONUFRIYEV, Timofey Grigor'yeovich, dots.; SHATNEV, Boris Nikolayevich, dots.; IVAN'KO, Timofey Yakovlevich, inzh.; GERGL'SKAYA, Lyudmila Sergeyevna, dots.; SARYCHEVA, Nina Petrovna, dots.; KOSTYAYEV, Sergey Petrovich, inzh.[deceased]; YEGOROV, L.P., dots., retsenzent; ZAYCHENKO, I.R., dots., retsenzent; BYALYNITSKIY, V.A., inzh., retsenzent; CHERKASHIN, N.A., inzh., retsenzent; DYNER, I.I., inzh., retsenzent; PAUL', V.P., inzh., red.; NEKLEPAYEVA, Z.A., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Buildings in railroad transportation] Zdanila na zheleznodorozh-
nom transporte. Moskva, Transzheldorizdat, 1962. 400 p. (MIRA 15:6)
(Railroads--Buildings and structures)

KOSTVAYEV, Pavel Sergeyevich, kand. tekhn.nauk; MEL'NIKOVA, Zh.M.,
red.; RAKITIN, I.T., tekhn.red.

[Cold concrete] Khododnyi beton. Moskva, Izd-vo "Znanie,"
1964. 32 p. (Novoe v zhizni, nauke, tekhnike. IV Seria:
Tekhnike, no.4) (MIRA 17:3)

KOSTYAYEV, P.S., inzh.

Examination of "cold" concrete in structures being used. Transp.
stroi. 12 no.3:49-51 Mr '62. (MIRA 16:11)

KOSTYAYEV, P. S., kand. tekhn. nauk

Unheated mortars for sealing precast elements, Transp. stroi.
13 no.3:51-52 Mr '63. (MIRA 16:4)

(Mortar)
(Precast concrete construction—Cold weather conditions)

KOSTYAYEV, Pavel Sergeyevich; LANINA, L.I., red.; ATROSHCHENKO,
L.Ye., tekhn. red.

[Start of an engineer's career] Nachalo puti inzhenera. Mo-
skva, Izd-vo "Znanie," 1962. 31 p. (Novoe v zhizni, nauke,
tekhnike. X Seriya: Molodezhnaya, no.19) (MIRA 15:10)
(Railroads--Construction) (Bridges, Concrete)

KOSTYAYEV, P.S., inzh.

Simplified method for calculating the quantity of slat solutions
used in making cold concrete. Avt. dor. 24 no. 1:27 Ja '61.
(MIRA 14:2)

(Concrete)

KOSTYAYEV, P. S.

Cand Tech Sci - (diss) "Studies of the effect of technological factors on the quality of cold concrete in railroad synthetic structures. (Under severe climatic conditions)." Moscow, 1961. 22 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Motor Vehicle and Road Inst); 150 copies; price not given; list of author's works on pp 21-22 (10 entries); (KL, 5-61 sup, 190)

SIZOV, V.P., kand.tekhn.nauk; KOSTYAYEV, P.S., inzh.

Making, laying and taking care of "cold" concrete. Transp. stroi.
10 no.11:31-35 N '60. (MIRA 13:11)
(Frost resistant concrete)

KOSTYAYEV, P.S., inzh.

Using "cold" concrete in railroad construction. Bet. i zhel.-bet.
no.10:442-445 0 '60. (MIRA 13:10)
(Concrete construction)
(Railroads--Construction)

KOSTYAYEV, P.S., inzh.

Constructions made of "cold" concrete. Put' i put.khoz.
4 no.4:28-30 Ap '60. (MIRA 13:7)
(Railroads--Buildings and structures)
(Concrete construction--Cold weather conditions)

KOSTYAYEV, P.S., inzh.

Determining the time for stripping forms of "cold" concrete
structures. Transp.stroi. 9 no.12:35-38 D '59.
(MIRA 13:5)

(Concrete construction--Formwork)

KOSTYAYEV, P.S., inzh.; PETROVA, M.S., inzh.

Using plastics in the waterproofing of engineering structures.
Transp.stroi. 9 no.5:54-55 My '59. (MIRA 12:12)
(Plastics)

KOSTYAYEV, P.

In the drive for the development of communal animal husbandry.
Veterinariia 42 no.7:12-13 J1 '65. (MIRA 18:9)

1. Glavnyy veterinarnyy vrach Gorno-Altayskogo oblastnogo
upravleniya sel'skogo khozyaystva.

KOSTYAYEV, A.G.

Origin of wedge-shaped bodies in Quaternary sediments. Vest.-
Mosk.un.Ser.4:Geol. 17 no.4:55-61 J1-A6 '62. (MIRA 15:9)

1. Kafedra geografii polyarnykh stran i glyatsiologii Moskovskogo
gosudarstvennogo universiteta.
(Geomorphology)

KOSTYAYEV, A.G.

Genesis of periglacial loesses in the light of the
development of wedge structures. Vest. Mosk. un. Ser.
5: Geog. 20 no.5:33-40 S-O '65. (MIRA 18:12)

1. Kafedra polyarnykh stran i glyatsiologii Moskovskogo
gosudarstvennogo universiteta. Submitted July 15, 1964.

KOSTYANSKIY, S.

~~REDACTED~~

Prepacked vegetables stores. Sov. torg. 33 no.8:23-25 Ag '59.
(MIRA 12:11)

(Vegetable trade)

KOSTYANOV, S., mayor

Marshal of the Soviet Union thanks. Av. i kosm. 46 no.12:24-
25 D '63. (MIRA 17:1)

LIKHODED, V.P.; NAZARENKO, I.I.; KOSTYANOV, P.N.

New design of a compressed arc cutter. Mashinostroenie no.4:77-78
Jl-Ag '63. (MIRA 17:2)

KOSTYANOV, N.G. [Kostianoi, M.H.]

Hydrogeological characteristics of the Kanov dislocated plateau.
Geol. zhur. 20 no. 3:76-79 '60. (MIRA 14:4)
(Kanov plateau--Water, Underground)

L 44402-55

ACC NR: AN6012199

of technical training and available training movies are not used. The author believes that award of certificates to officers who have completed technical courses would serve as incentive to such studies. Refusal by some officers to use older, although not obsolete equipment, is also an obstacle to improvement in technical training. He blames the central press for the shortage of urgently needed topical and methodological publications and states in conclusion that any combined arms commander can and should become a good technician. [GC]

SUB CODE: 05, 15/ SUBM DATE: none/

Card 2/2 *copy*

I 44402-56 EWT(d)/EWT(m)/EWP(h)

ACC NR: AN6012199 (A,N) SOURCE CODE: UR/9008/65/000/307/0002/0002

AUTHOR: Baranyuk, V. (Major general of tank forces, Hero of the Soviet Union);
Kostyanov, N. (Engineer, Colonel)

ORG: none

TITLE: Technology is demanding [Better technical training needed for army officers] 19

SOURCE: Krasnaya zvezda, 30 Dec 65, p. 2, col. 1-4 B

TOPIC TAGS: military personnel, military training

ABSTRACT: The author stresses the need to improve technical training of army officer personnel and illustrates it with examples. He adds that lack of time, which forces men to acquire a purely superficial knowledge of equipment, and the inefficiency of the present system of technical training are to blame for this. Regular technical training courses should be organized for officers. The author also states that methodical training of specialist technicians is likewise poorly organized in many units. As a rule, there are no specialized seminars and lectures for directors

Card 1/2

KOSTYANOV, M.G. [Kostianoi, M.H.]; LYAL'KO, V.I.

Evaluation of the possibilities of the movement of moisture in the aeration zone of the Dnieper-Molochnaya interfluve on the basis of studying the content of connate water. Geol.zhur. 22 no.5:61-66 '62. (MIRA 15:12)

1. Institut geologicheskikh nauk AN UkrSSR.
(Dnieper Valley--Water, Underground)
(Molochnaya Valley--Water, Underground)

KOSTYANOV, N.G. [Kostianoi, M.H.]

Effect of connate water on the determination of the specific gravity
and some physicommechanical indices of the properties of clay rocks.
Geol.zhur. 21 no.3:65-71 '61. (MIRA 14:7)

1. Institut geologicheskikh nauk AN USSR.
(Clay)

ACC NR: AP6032085

The wear of caterpillar tracks, caused by stones and vibrations, is also discussed and the application of higher maintenance standards are suggested. In conclusion, it is mentioned that the military personnel must undergo special psychological training in order to acquire habits and reactions for operations in high mountains under abnormal conditions. Orig. art. has: 5 photos, 1 table.

SUB CODE: 15/ SUBM DATE: None

ACC NR: AP652035

(A)

SOURCE CODE: UR/0317/66/000/009/0048/0053

REPORTOR: Baranyuk, V. (Brigadier general; Tank forces); Kostyanov, N. (Engineer; Colonel; Hero of Soviet Union)

ORG: None

TITLE: Tanks in mountains

SOURCE: Tekhnika i vooruzheniye, no. 9, 1966, 48-53

TOPIC TAGS: military tank, ground force training

ABSTRACT: A general review of the use of military tanks in mountains is presented on the basis of practical experience and training exercises. The high standard of proficiency attained and maintained by a tank unit (commanded by Lieutenant-Colonel M. Yelizarov) is praised and the names of many of its officers and sergeants are mentioned. The effect of low atmospheric pressure, at high altitudes, on the performance of tank engines is examined. An 8-pct decrease in power of a diesel engine per one kilometer of altitude is mentioned. The increase in fuel consumption at high altitudes is also considered. In general, manipulations with fuel injection and with crankshaft revolutions are not recommended. Due to a more intensive evaporation of water at high altitudes, a stricter control over the water levels in cooling systems and storage batteries is recommended. Careful operation and maintenance of drives and brakes are main subjects of training programs.

Card 1/2

KOSTYANOV, M.G. [Kostianoi, M.H.]

Mesozoic and Cenozoic water-clay relationship of the Kenev dislocation belt from the point of view of engineering geology. Trudy Inst.geol.-nauk AN URSR Ser.gidrogeol.i inzh.geol. no.8:52-83 '62. (MIRA 15:7)
(Ukraine--Engineering geology) (Ukraine--Clay)

KOSTYANOV, Mikhail Grigor'yevich; BABINETS, A.Ye., doktor geol.-mineral.nauk, otv.red.; LYAL'KO, V.I., red.izd-va; BEREZOVSKAYA, D.N., tekhn.red.

[Characteristics of clay rocks in the regions of the Kanev dislocations from the viewpoint of engineering geology] Inzhenerno-geologicheskie osobennosti glinistyykh porod raiona Kanevskikh dislokatsii. Kiev, Izd-vo Akad. nauk USSR, 1963. 173 p. (Akademiia nauk URSS. Kiev. Institut geologichnykh nauk. [Trudy]. Seriya gidrogeologii i inzhenernoi geologii, no.10). (MIRA 16:10)

KOSTYANCY, M.G.

[Engineering geology characteristics of the argillaceous
rocks of the Kanev region dislocations] Inzhenerno-
geologicheskie osobennosti glinistyykh porod raiona Kanav-
skikh dislokatsii. Kiev, Izd-vo Akad. nauk SSSR., 1963.
174 p. (MIRA 18:10)

L 14023-66

ACC NR: AT6005153

diation was measured by a special instrument fastened beneath the airplane. The reflected radiation was measured in absolute units. Flights took place above different ground and cloud areas. Brightness coefficients computed from observation data obtained from the ground and from reservoirs in the Crimean, Don, and Volgograd steppes and in the Caspian Sea region were compiled in seven tables presented in the original article. Coefficients computed from data obtained above water surfaces were represented graphically. The greatest brightness coefficient was found above regions of yellow sand and harvested crops on fields. Orig. art. has: 9 tables, 4 figures, and 3 formulas. [EG]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4196

Card 2/2 *SC*

L 14023-66 EWT(1)/FCC GW
ACC NR: AT6005153

SOURCE CODE: UR/2789/65/000/066/0063/0072

AUTHOR: Kostyanov, I. N.; Pakhomova, L. A.

21
B+1

ORG: Central Aerological Observatory (Tsentral'naya aerologicheskaya observatoriya)

TITLE: Measurements of the brightness coefficient^{12,44,55} of the ground and clouds from an airplane

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 66, 1965.
Aerosinopticheskiye i aerologicheskiye issledovaniya (Aerosynoptic and aerological research), 63-72

TOPIC TAGS: reflected light, incident light, albedo, Lambert law, brightness coefficient, downwelling radiation

ABSTRACT: The reflection ability of a surface is usually characterized by the albedo which is a ratio of the incident light to the light reflected in all directions. The brightness coefficient can be used instead of the albedo. The former is a ratio of the surface brightness to the brightness of an absolutely white surface determined by Lambert's law. The brightness coefficient differs from the albedo, being equal to it only when a Lambert's surface is used. The brightness coefficient for various natural surfaces was determined from aerological and actinometric observation data obtained by airplane flights to a height of 6 km. The downwelling radiation was measured by Yanishevskiy's pyranometer located on the airplane, and the reflected ra-

Card 1/2

ACC NR: AP7001882

in the free atmosphere occur between 15° N and 15° S latitudes, and this zone needs special study, all round the world, on other oceans and on land. Orig. art. has: 5 figures and 9 tables.

SUB CODE: 04/

SUBM DATE: 07Apr66/

ORIG REF: 011/

OTH REF: 008

Card 2/2

ACC NR: AP7001882

(N)

SOURCE CODE: UR/0362/66/002/012/1235/1252

AUTHORS: Zaytseva, N. A.; Kostyanov, G. N.

ORG: Central Aerological Observatory (Tsentral'naya aerologicheskaya observatoriya)

TITLE: Meridional change in the long-wave field of radiation in the atmosphere above the Pacific Ocean (from weather-ship data)

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 12, 1966, 1235-1252

TOPIC TAGS: heat radiation, research ship, atmospheric radiation

ABSTRACT: The authors have analyzed meridional cross sections of the long-wave radiation field, using data of radiometric soundings from the weather ships A. I. Voyeykov and Yu. M. Shokal'skiy during May and June 1965. Some aspects of the distribution of radiation currents in the free atmosphere above the Pacific Ocean are discussed. The data are tabulated and the distributions are represented in figures. These show that the meridional course of effective radiation here observed is in good agreement with previous determinations, except for a maximum near 2° S lat. at a height of 10 km. It is noted that there is a great difference in heat influx in the troposphere at latitudes 15--25° N from that at the equator: 0.175 versus 0.100 cal/cm² min. This causes radiation cooling of the troposphere of 1.1 and 0.6° per day, respectively. The sharpest changes in actinometric and aerological parameters

Card 1/2

UDC: 551.521.2

ACC NR: AT7000568

radiation of ascending currents during clear nights and overcast days in the winter do not exceed $\pm 5\text{--}7\%$. In the troposphere, changes in the downward current do not exceed $10\text{--}15\%$. Furthermore, the effective radiation in the stratosphere changes within the limits of $20\text{--}30\%$. Finally, changes in humidity affect the radiation field in the stratosphere very strongly. Orig. art. has: 6 figures.

SUB CODE: 04/ SUBM DATE: 04Feb65/ ORIG REF: 001

Card 2/2

ACC NR: AT7000568

SOURCE CODE: UR/2789/66/000/070/0041/0057

AUTHORS: Zaytseva, N. A.; Kostyanoy, G. N.

ORG: none

TITLE: Change of the long wave radiation field in the free atmosphere during 7--10 hrs

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 70, 1966.
Radiatsionno-opticheskiye i ozonometricheskiye issledovaniya atmosfery (Radiation-optical and ozonometric investigations of the atmosphere), 41-57

TOPIC TAGS: radiosonde, actinometry, atmospheric sounding, atmospheric cloud, atmospheric radiation

ABSTRACT: Changes in the long wave radiation of the earth's atmosphere during a 7--10 hr period are discussed on the basis of actinometric radiosonde data obtained over a series of seven observations at the TsAO Aerological Institute in Dolgoprudyy. The seven radiosonde series are divided into three general groups. The first recorded radiation field changes under cloudless conditions. The second was done under solid cloud cover. The third recorded changes in the radiation field when atmospheric conditions were changing rapidly during the observation. A number of time-plots are given showing the changes in the effective radiation field in the air up to an altitude of 20 km. From these results it is concluded that changes in the long wave

Card 1/2

UDC: 551.552.32

ACC NR: AT7000567

altitudes determined by the upward-downward draft ratios $\frac{\gamma_q^{\uparrow}}{\gamma_q^{\downarrow}}$, by the altitudes of

discontinuity in the profiles of specific humidity q , and the inversion altitude. From this it is concluded that the cloud boundaries can be determined by radiation fields and that the radiation characteristics of the clouds are related to their water content. Orig. art. has: 5 tables and 2 figures.

SUB CODE: 04/ SUBM DATE: 04Feb65/ ORIG REF: 017/ OTH REF: 003

Card - 2/2

ACC NR: AT7000567

SOURCE CODE: UR/2789/66/000/070/0031/0040

AUTHORS: Kostyanov, G. N.; Kurilova, Yu. V.

ORG: none

TITLE: On the radiation properties of cloudiness

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 70, 1966.
Radiatsionno-opticheskiye i ozonometricheskiye issledovaniya atmosfery (Radiation-optical and ozonometric investigations of the atmosphere), 31-40

TOPIC TAGS: atmospheric cloud, atmospheric radiation, radiosonde, atmospheric humidity

ABSTRACT: The effect of cloudiness on the long wave radiation field of the atmosphere is analyzed on the basis of 30 actinometric radiosonde climbs during the winter season. Half of these observations correspond to the lower cloud layers: St, Sc, Sc op, Sc trans. The remainder correspond to the cloudiness of frontal systems As--Ns, Fmb. Altitude versus temperature, specific humidity, and upward (Q^{\uparrow}) and downward (Q^{\downarrow}) draft curves are given. A table is prepared showing the distribution of the effective radiation magnitude F in the cloud as a function of stratification temperature (γ). These experimental results agree well with theoretical predictions. A second table shows the presence of air-temperature stratification in the field of radiation change. Strong correlations are found between the height of cloud radiation boundary and the

Card 1/2

UDC: 551.521.14

L 10082-67

ACC NR: AP6027559

a body above its ambient under the influence of radiation from the ambient. By solving the long-wave transport equations, the author obtains the fraction of the incident radiation absorbed by the body which then equated to the equilibrium value of the energy lost by radiation. The conditions under which two opaque bodies placed in the same medium will have the same radiation temperature are found to be that their optical properties be similar and that the bodies have similar shape. In the case of a spherical body, only similarity of the absorption coefficients is required. It is shown that in order for the opaque body to have the same radiation temperature at any point of the medium, three conditions must be satisfied: a) the optical properties of the medium must not vary from point to point, b) the optical properties of the body should vary in accordance with the optical properties of the medium, c) the body and the medium should be gray. Conditions a) and c) do not hold for the earth's atmosphere, and condition b) cannot be satisfied for obvious reason. It is thus demonstrated that the rate of change of temperature of air cannot be determined from the difference between the temperature of an opaque body placed in the air and the air. It is pointed out on this basis that the deductions presented by J. P. Funk (J. Opt. Soc. America v. 50, no. 10, 1950) and G. N. Plass (J. Meteorol. v. 15, no. 6, 1958) are incorrect. Orig. art. has: 35 formulas.

SUB: CODE: 04, 20/

SUBM DATE: 09Aug65/

ORIG REF: 001/

OTH REF: 006

Card 2/2

L 10082-67 EST(1) GW
ACC NR: A 0027559

SOURCE CODE: UR/0002/66/002/005/0501/0507

AUTHOR: Kostyanov, G. N.

ORIG: Central Aerological Observatory (Tsentral'naya aerologicheskaya
observatoriya)

TITLE: Connection between the radiation temperature of an opaque body and the
radiative change in temperature of the medium

SOURCE: AN SSSR, Izvestiya. Fizika atmosfery i okeana, v. 2, no. 5, 1966,
501-507

TOPIC TAGS: solar radiation absorption, thermal absorption, transport equation,
optic property, light absorption, atmospheric radiation, atmospheric temperature

ABSTRACT: In view of the use of opaque absorbing bodies for the measurement of
radiation, the authors consider the connection between the temperature of a medium
and the radiation temperature of a body for which the total incident energy goes
only into absorption and reflection, and determine the connection between the
temperature of the body and the change in temperature of the medium in which this
body is located. The radiation temperature is defined as the temperature rise of

Card 1/2

UDC: 551.52

KOSTYANOV, G.H.

Making some parameters of humidity more exact. Trudy VSAO
no.67:3-10 '65. (MIRA 10:1)

KOSTYANOV, G.N.; PAKHOMOVA, L.A.

Measurement of the coefficient of brightness of the underlying
surface and clouds from an airplane. Trudy TSO no. 63-72
'65. (MIRA 19:1)

L 01211-66

ACCESSION NR: AP5023661

3

The effective radiation in clouds is less than $0.05 \text{ cal/cm}^2 \text{ min}$. Radiation transfer in the upper atmospheric layers is influenced by clouds. Maximum cooling takes place in those atmospheric layers where a strong change of humidity is observed. The rate of cooling at the upper limit of the clouds reaches 1—2 degrees an hour. Beyond the tropopause, the upwelling radiation has the same value in the dry and cool troposphere and the wet and warm troposphere. The downwelling radiation is also determined by the state of the stratification of temperatures and the distribution of humidity in the upper layers of the atmosphere. The downwelling radiation is less intense during anticyclonic states and most effective during cyclonic activity. Orig. art. has: 3 figures and 1 table. [EG]

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 12Jan65

ENCL: 00

SUB CODE: ES

NO REF SOV: 007

OHTER: 002

ATD PRESS: 4091

Card 2/2

L 01211-66 EWT(1) GW

ACCESSION NR: AP5023681

UR/0050/65/000/010/0029/0032
551.521

AUTHOR: Kostyanov, G. N.

TITLE: Correlations of the longwave radiation field with synoptic conditions in the summer

SOURCE: Meteorologiya i gidrologiya, no. 10, 1965, 29-32

TOPIC TAGS: actinometric ¹²⁴⁴⁵⁵ sounding, upwelling radiation, downwelling radiation, pressure level, temperature stratification, effective radiation, atmospheric layer, troposphere, tropopause, cyclonic activity

ABSTRACT: Observation data obtained during actinometric radiation soundings of the atmosphere at Dolgoprudnyy Station ⁴⁴⁵⁵ in August 1962 are discussed. The observations were carried out at night at different degrees of cloudiness. The state of upwelling and downwelling radiation is presented graphically in the original article for pressure levels from the ground to the 150-mb level. When the skies are cloudless, the radiation depends upon the distribution of humidity and the stratification of the temperature layers of the atmosphere. The effective radiation in the atmosphere is nearly zero, although upwelling and downwelling radiation show changes.

Card 1/2

L 2172-66

ACCESSION NR: AP5022925

is found that when the accuracy of the determination of the integral transmission function for diffuse radiation is considered, the effect of the reflectivity of the underlying surface may be neglected in calculations of the integral longwave radiation fluxes in the free atmosphere above 300—500 m. "In conclusion, I thank Ye. M. Feygel'son for helpful suggestions during review of this work." Orig. art. has: 30 formulas.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 24Feb65

ENCL: 00

SUB CODE: ES,TD

NO REF SOV: 004

OTHER: 001

Card 2/2

L 2172-66 - EWT(1) GW
ACCESSION NR: AP5022925

UR/0362/65/001/009/0996/1000
551,521.32

46
40
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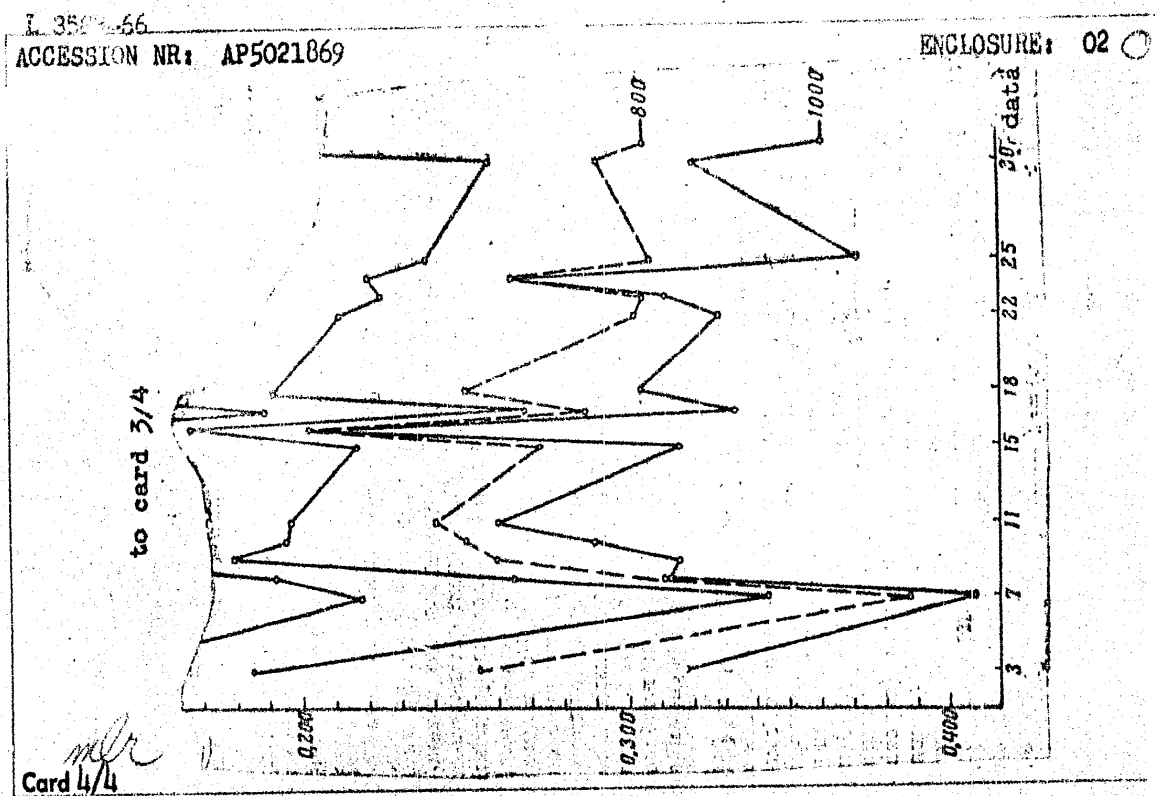
AUTHOR: Kostyanov, G. N.

TITLE: Effect of the reflectivity of the underlying surface on longwave radiation fluxes in the free atmosphere

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 9, 1965, 996-1000

TOPIC TAGS: free atmosphere, heat reflection, heat radiation, radiative heat transfer
12,44.65

ABSTRACT: The effect of the reflectivity of the underlying surface is usually neglected in calculations of longwave radiation fluxes in the free atmosphere; however, because of the greater accuracy of experimental studies of the radiation field in the free atmosphere, it has become necessary to evaluate this factor. Two special cases are considered: (1) the surface reflects diffusively in accordance with Lambert's law, and (2) the surface reflects specularly only. For simplicity, it is assumed that the reflectivity in both cases is independent of the direction of propagation of the radiation and of its spectral properties. It
Card 1/2



L 3583-66

ACCESSION NR: AP5021869

ENCLOSURE: 01

Card 3/4

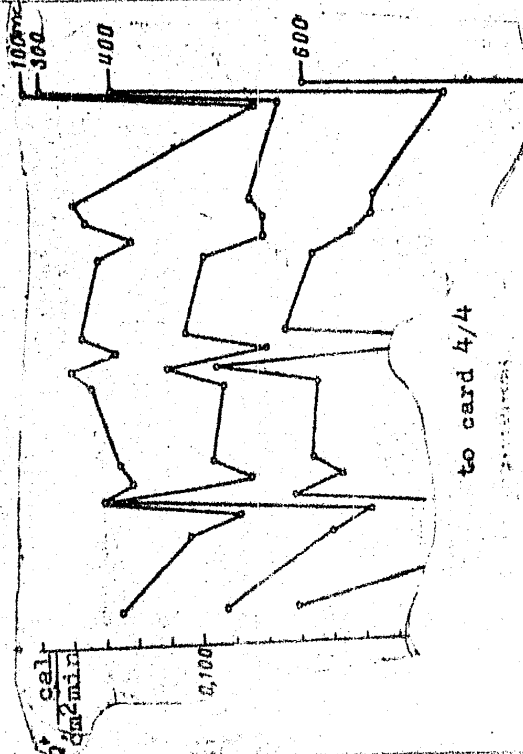


Fig. 1. Field of the downward flux of long wavelength radiation during January 1963

L 350-66

ACCESSION NR: AP5021869

is chiefly determined by the thermal stratification and water vapour content of the atmosphere; 2) apparently a connection exists between the synoptic conditions and the water vapour content of the atmosphere. N. T. Batova and Yu. G. Dudanov took part in the actinometric sounding balloon experiments. Orig. art. has: 1 table, 5 graphs, and 1 equation.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 25Dec64

ENCL: 02

SUB CODE: ES

NO REF SOV: 019

OTHER: 008

Card 2/4

L 3583-66 EWT(1) CW

ACCESSION NR: AP5021869

UR/0362/65/001/008/0823/0832
551.521.32

AUTHOR: Kostyanov, G. N.

TITLE: On the change in the large wavelength radiation field in the free atmosphere during the winter period

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 8, 1965, 823-832

TOPIC TAGS: meteorology, meteorological phenomenon, atmospheric irradiation, actinometry, meteorological balloon

12 ABSTRACT: An analysis of the actinometric radiosonde data on the large wavelength radiation field, obtained during the month of January 1963 above the city of Dolgoprudnyy, is presented. The work was undertaken to extend presently available information on the nature of the infrared radiation in the free atmosphere. The data on the air temperature, relative humidity, change in the effective radiation in the troposphere, and on the upward and downward flux of infrared radiation are presented graphically (see Fig. 1 on the Enclosure). Meteorological parameters determined at the time of sounding are tabulated. It is concluded that: 1) the large wavelength radiation field of the free atmosphere during winter conditions

Card 1/4

KOSTYANOV, G.N.

Relation between the upward longwave radiation fluxes from the earth and the troposphere and the temperature of the mean energy level. Izv. AN SSSR. Fiz. atm. i okean. 1 no.7:715-721 J1 '65.
(MIRA 18:8)

1. Tsentral'naya aerologicheskaya observatoriya.

L 59507-65

ACCESSION NR: AP5019153

energy were determined from each sounding and from these data, the correlation coefficient between the intensities of the radiation fluxes of the ground and the layer of mean energy. Correlation coefficients computed from sounding data were small except in some cases with a cloudy sky. Thus, the thermal stratification of the atmosphere depends upon many factors, and the influence of the upwelling radiation is slight. The correlation between the upwelling radiation and the temperature of atmospheric layers is vague. Orig. art. has: 5 tables and 5 formulas. [EG]

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 30 Nov 64

ENCL: 00

SUB CODE: E5

NO REF SOV: 019

OTHER: 005

ATD PRESS: 4054

Card 2/2

L 59507-65 ENG(v)/DWT(L) Pe-5/Pas-2 GW

ACCESSION NR: AP5019153

UR/0362/65/001/007/0715/0721
551.521.32AUTHOR: Kostyanczy, G. N.

TITLE: Correlation between upwelling fluxes of longwave radiation of the earth and troposphere and the temperature of the layer of mean energy

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 7, 1965, 715-721

TOPIC TAGS: upwelling longwave radiation, troposphere, radiation flux, radiation absorption, water vapor, carbon dioxide, ozone correlation coefficient, mean energy layer

ABSTRACT: The problem of the correlation between the upwelling longwave radiation of the earth and the troposphere and the temperature of the atmospheric layers is studied theoretically. A formula is given which expresses the radiation flux as a function of the ground temperature, the temperature distribution in air layers, and the radiation absorption by water vapor, carbon dioxide, and ozone. The correlation coefficient is computed with a nomogram. Great differences in the numerical values of the coefficient point to the nonlinear correlation between the radiation flux and the air temperature. The height, temperature, and pressure of the layer of mean

Card 1/2

KOSTYANOV, G.N.

Methodology of calculating inertia errors in aerological studies.
Trudy TSAO no.60:54-64 '64. (MIRA 18:5)

I 8816-65

ACCESSION NR: AP4043945

the auxiliary oscillation voltage is used as the converter output signal.
Orig. art. has: 2 figures.

ASSOCIATION: Nauchno tekhnicheskoye obshchestvo radiotekhniki i elektroniki
(Scientific and Technological Society of Radio-Technology and Electronics)

SUBMITTED: 22Oct63

ATD PRESS: 3106

ENCL: 00

SUB CODE: BC

NO REF SOV: 001

OTHER: 000

Card 2/2

L 8816-65 EWT(1) ESD(s)
 ACCESSION NR: AF4043942

8/0108/64/019/008/0022/0024

AUTHOR: Kostyanov, G. N. (Active member)

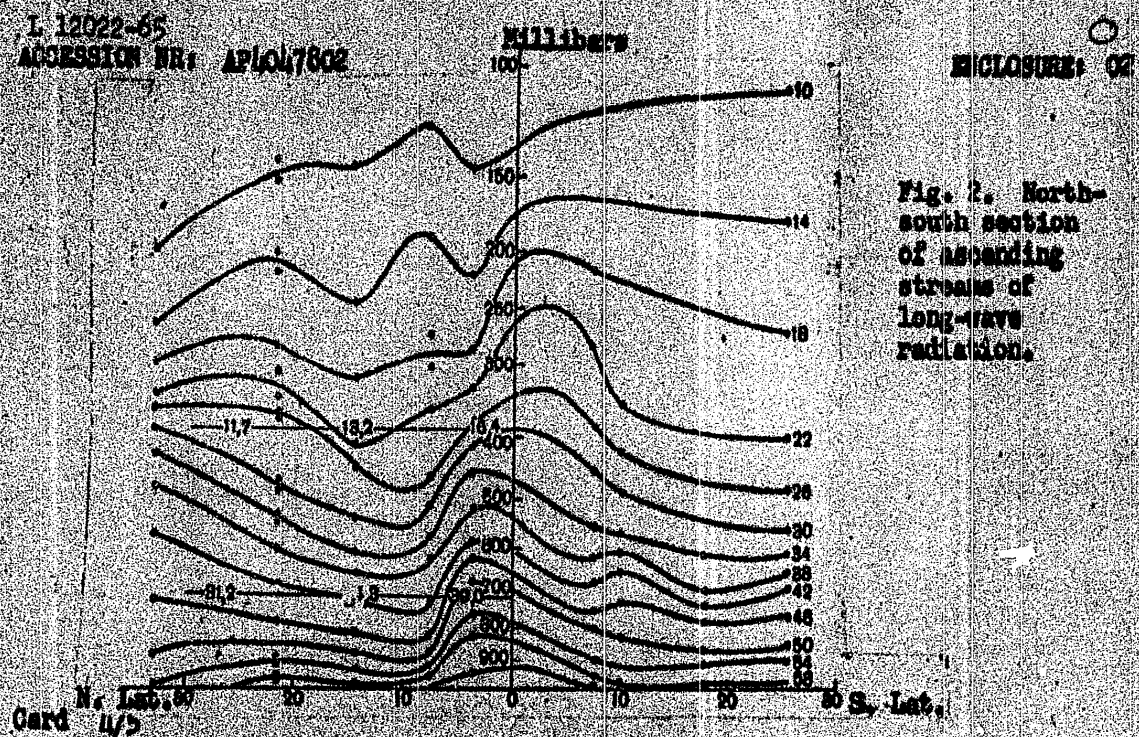
TITLE: Superregenerative converter of pulse signals *25* *E*

SOURCE: Radiotekhnika, v. 19, no. 8, 1964, 22-24

TOPIC TAGS: pulse superregenerative reception, superregenerative pulse converter, responder, transceiver

ABSTRACT: A circuit to be used in transceivers and responders is described. It permits reception of short radio pulses (1-10 μsec) and automatic quenching of the generated pulses for intervals of 400-500 μsec following every received pulse. This action is achieved in a miniature command receiver which uses a superregenerative converter of pulse signals. With the duration of the input pulse signal of 500 μsec and longer, the interval between pulses generated by this circuit depends only slightly on the duration of the incoming pulse. With a rate of interrogation and command pulse signals higher than 2000 pulse/sec, the converter operates as a frequency divider, and with 500 to 1000 pulse/sec, forms output pulses with a duty factor equal to 2. The amplification of the converter is several times higher than that obtained by the superregenerative radio receiver because

Card 1/2



L 12022-65
ACCESSION NR: AP10h7802

ENCLOSURE: 01

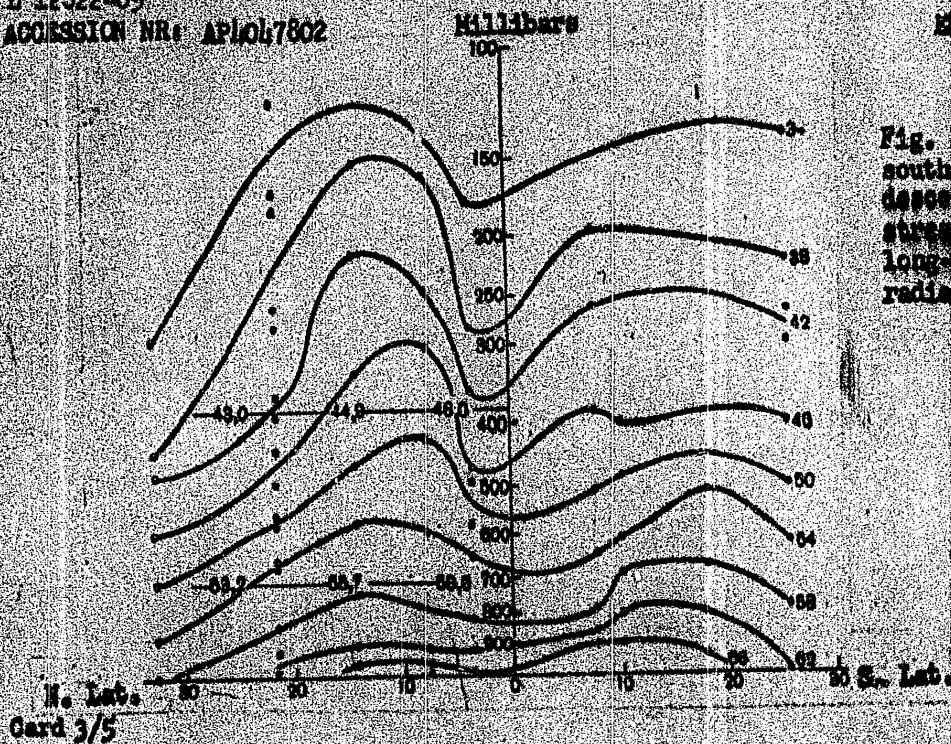


Fig. 1. North-south section of descending streams of long-wave radiation.

L 12022-65

ACCESSION NR: AP4047802

2

increase southward from the equatorial region, reaching a maximum at 10-20° S lat. The values are as large or are larger than the maximum for the northern latitudes (at 500 millibars). The distribution of upward and downward streams of long-wave radiation and the distribution of effective radiation are shown graphically in Figs. 1-3 on the Enclosures. It is seen that the actual field of long-wave radiation differs markedly from the average theoretical value. More data are needed for a clearer definition of the radiation field, especially in the zone within 10° on either side of the equator. The authors express their thanks to V. T. Proshin and his group for their great aid in organizing and conducting the actinometric measurements on the research ship. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 11 Jun 61

ENCL: 03

SUB CODE: ES

NO REF SOV: 005

OTHER: 006

Card 2/5

L 12022-65 EWT(1)/EWG(v) Pe-5/Pae-2 GW

ACQUISITION NR: APL047802

S/0050/64/000/ALL/0029/0033

AUTHORS: Kostyanov, G. N.; Pakhomova, L. A.TITLE: Actinometric measurements in the atmosphere above the Pacific Ocean BSOURCE: Meteorologiya i gidrologiya, no. 11, 1964, 29-33

TOPIC TAGS: atmospheric radiation, research ship observation

ABSTRACT: The authors consider the results of actinometric measurements in the atmosphere above the Pacific Ocean, made during the seventh expedition of the research ship A. I. Voyevkov in January-March 1962. The data are of night observations between 33° N Lat and 37° S Lat. One set of measurements was made along the 160th meridian, the other between 150 and 170° E Long. The data show that the streams of long-wave radiation and the effective radiation change markedly with latitude. Descending streams of long-wave radiation are at a minimum at the equator, but shift slightly to the north (10° N Lat), and this minimum is most sharply developed at levels of 500 to 200 millibars. Rising currents increase toward the north, and reach maximum at $8-10^{\circ}$ N Lat, beyond which they fall to the boundary of the observed range (32° N Lat). The values of rising currents also

Card 1/5

BELOV, V. P.; GERMAN, A. I.; KOSTYANOV, G. N.; PAKHOMOVA, L. A.

"Balloon and aircraft measurements of short wave radiation."

report presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

FWT(1)/FCC(w)/BDS/ES(v)--AFFTC/ESD-3--P1-l/Pa-l/Pq-l--GW

L 10775-63

ACCESSION NR: AP3003803

S/0050/63/000/007/0047/0049

AUTHOR: Kostyancy, G. N.

TITLE: Actinometric radiosonde ✓

SOURCE: Meteorologiya i gidrologiya, no. 7, 1963, 47-49

TOPIC TAGS: meteorological instruments, actinometric radiosonde,
radiation balance, balance meter

ABSTRACT: In 1961 an actinometric radiosonde, incorporating the best features of non-Soviet instruments and actinometers, was designed to measure long-wave radiation. ✓ The instrument is a slightly modified PK3-1A radiosonde suspended 30 m below a balloon envelope so that the sensing surfaces of the balance meter are horizontal. The balance meter (the flux and balance sensor) is attached to supports and is 70 cm from the radiosonde housing. The sensing surfaces of the meter are not shielded by the housing and the inertia error is small. The balance

Card 1/2

Card 2/2

On the reduction of ...

S/050/63/000/001/005/007
D218/D307

the thermistor, gave rise to a reduction in the radiation error by a factor of 1.2 - 1.5. It is stated that the RKZ-1A radiosonde, incorporating the MMT-6 thermistor, covered with the BaSO_4 coating and mounted on the lighter support, is comparable with, or may even be better than, the "better radiosondes employed abroad".

ASSOCIATION: Tsentralnaya aerologicheskaya observatoriya (Central Aerological Observatory)

Card 2/2

S/050/63/000/001/005/007
D218/D307

AUTHORS: Kostyanoy, G. N. and Kruglova, A. I.

TITLE: On the reduction of radiation errors in measurements
of the temperature of air by the PK3-1A (RKZ-1A) radio-
sonde

PERIODICAL: Meteorologiya i gidrologiya, no. 1, 1963, 47

TEXT: It has been found that the radiation error may be reduced to 2 - 3 degrees at a height of 30 km by using the MMT-6 (MMT-6) thermistor, instead of the previously employed MMT-1 and by painting it with a white substance consisting mainly of BaSO_4 . The MMT-6 has a small diameter (by a factor of 2.5), and hence the convective heat transfer coefficient is larger by a factor of 1.5, so that the radiation error is reduced by an approximately equal factor. The white coating has a reflection coefficient of 85 - 90%, and this gives rise to reduction in the radiation error by a factor of 3 to 4. A modification of the holder, aimed at reducing its effect on

Card 1/2

L 18785-63 EWT(1)/BDS AFFTC/ASD/ESD-3 RB
 ACCESSION NR: AR3006441 S/0124/63/000/008/B117/B117

SOURCE: RZh. Mekhanika, Abs. 8B778

AUTHOR: Kostyanov, G. N.

12/ TITLE: Radiation error in the measurement of temperature in the free atmosphere by thermal resistors of type MMT-1, and KMT-1 60

CITED SOURCE: Tr. Tsentr. aerol. observ., vy*p. 45, 1962, 73-81

TOPIC TAGS: radiation error, temperature measurement, thermal resistor radio sounding, atmospheric measurement, atmospheric temperature

TRANSLATION: The question of radiation errors during the measurement of the temperature of the air by thermoresistances (TRO) which are used in radio sounding of the atmosphere. Formulas are introduced for the calculation of the heating (the difference of temperature of the TR and the surrounding air) for the TR's shielded and unshielded from the sun in the cases when they are oriented horizontally and vertically relative to the surface of the earth. The conditions during which TRs with coverings have the least heating are introduced. Recommendations are made with respect to decreasing the radiation error of the transmitters used for the measurement of the temperature in the free atmosphere. M. S. M.

DATE ACQ: 28Aug63

SUB CODE: AS, PH

ENCL: 00

Card 1/1

KOSTYANOV, G.N.

Measurement of radial flux by a temperature gauge ~~fastened~~ in the
center of a thin round plate. Trudy TSAO no.45:61-72 '62.
(MIRA 16:10)

KOSTYANOVSKIY, R.G.; FREKOP'YEV, A.N.

Three-membered rings with coordination bonds. Part. AN SBR 164
no.5:1054-1057 0 185. (MIRA 18:10)

1. Institut khimicheskoy fiziki AN SSSR. Submitted July 2, 1965.

BRYSTROV, V.F.; KOSTYANOVSKIY, R.G.; PAN'SHIN, O.A.; STEPANYANTS, A.U.;
UZNAKOVA, O.A.

Three-membered rings. Part 1. Opt. i spektr. 19 no.2:
217-228 Ag '65. (MIRA 18:8)

KOSTYANOVSKIY, R.G.

N-Acryloyl-ethylenimine. Zhur. VKHO 10 no.2:231-233 '65.

(MIRA 1346)

1. Institut khimicheskoy fiziki AN SSSR.

KOSTYANOVSKIY, R.G.; YUZHAKOVA, O.A.; BYSTROV, V.F.

Conjugation of ethylenimine nitrogen with an activated double
bond. Zhur. VKHO 10 no.2:229-231 '65. (MIRA 1816)

1. Institut khimicheskoy fiziki AN SSSR.